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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,616	05/11/2001	Thomas G. Lang		5341

7590

10/23/2003

James C. Wray
Suite 300
1493 Chain Bridge Road
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EXAMINER

VASUDEVA, AJAY

ART UNIT	PAPER NUMBER
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3617

DATE MAILED: 10/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/852,616

Applicant(s)

LANG ET AL.

Examiner

Ajay Vasudeva

Art Unit

3617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 08 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-220 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-144 and 152-220 is/are allowed.
- 6) ☒ Claim(s) 145-147 and 149-151 is/are rejected.
- 7) ☒ Claim(s) 148 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 25 November 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Notice of References CitedApplication/Control No.
09/852,616Applicant(s)/Patent Under
Reexamination
LANG ET AL.Examiner
Ajay VasudevaArt Unit
3617

Page 1 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
X	A	US-6,345,791 B1	02-2002	McClure, Paul D.	244/200
	B	US-6,092,766 A	07-2000	LaRoche et al.	244/200
X	C	US-5,967,071	10-1999	Wipper, Daniel J.	114/67A
	D	US-5,542,630 A	08-1996	Savill, Anthony M.	244/200
	E	US-5,445,095 A	08-1995	Reed et al.	114/67A
	F	US-5,359,951 A	11-1994	Meng, James C. S.	114/67R
X	G	US-5,133,516 A	07-1992	Marentic et al.	244/130
	H	US-5,069,403	12-1991	Marentic et al.	244/130
	I	US-5,033,116	07-1991	Itagaki et al.	2/67
	J	US-5,026,232	06-1991	Savill, Anthony M.	244/130
	K	US-4,930,729	06-1990	Savill, Anthony M.	244/200
X	L	US-4,865,271	09-1989	Savill, Anthony M.	244/130
X	M	US-4,706,910	11-1987	Walsh et al.	244/130

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N	JP 61081283 A	04-1986	Japan	TOKUNAGA, KEIZO	B63B 01/38
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Art Unit:

DETAILED ACTION

Priority

1. The instant application is granted benefit of the earlier filing date due to adjustment of its status as Continuation-in-Part (CIP) of the application SN 09/689,698 filed October 13, 2000, now Patent 6,439,148, which is a division of Application SN 08/948,242 filed October 7, 1997, now Patent 6,167,829, and is in compliance with the requirements of 35 U.S.C. 120 and 37 CFR 1.78.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 145-147 and 149-151 are rejected under 35 U.S.C. 102(b) as being anticipated by Wipper.

Wipper describes a method of providing a closed gas cavity across channels [124] (figure 6), which together with the longitudinally extending ribs [128] constitute a single underwater surface [124, 128], and together assume a non-planar saw-tooth shaped profile (figure 6A). This

Art Unit:

underwater surface, in its cross-section, would project a similar saw-tooth shaped profile. Wipper further describes the method including the steps of forming a gas cavity on the surface (col. 8, line 35), and providing a closure in a cavity closure region (col. 8, line 38). It may be noted that the entire rear-half section of the underwater surface is considered as constituting the cavity closure region. Applicant's attention is drawn to figure 6A and 6B, which shows a single cavity [132] extending over as well as across the entire underwater surface, which includes the channels as well as the ribs.

The ribs have a u-shape profile forming a series of parallel ridges, and the channels form a series of parallel grooves, both of which are within 30 degrees of the water flow. The height of the ridges is less than the maximum cavity thickness at approximately the mid-point of the underwater surface, which is ahead of the cavity closure region.

Although the instant application has been granted the benefit of the earlier filing date as it repeats a substantial portion of prior Applications, the above rejected claims constitute such added matter which was not presented in the prior application. Therefore, claim 145 is not entitled to the filing date of the U.S. parent, and its effective filing date is the filing date of the CIP.

Art Unit:

Allowable Subject Matter

4. Claims 1-144, and 152-220 are allowed.
5. Claim 148 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments with respect to claims 145-147 and 149-151 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion


7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: McClure, LaRoche et al., Savill ('630, '232, '729, '271), Reed et al., Meng, Marentic et al. ('516, '403), Itagaki et al., Walsh et al., Lang (965), Eichenberger, and JP (283) shows rib structures for reducing drag in a fluid medium.

8. **This is a non-final action.**

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ajay Vasudeva whose telephone number is (703) 306-5992.

 AV

October 19, 2003


S. JOSEPH MORANO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600